As mentioned in Section 4, staff has eliminated the planned simulations of 50 percent of each standard's shutoff criteria. Therefore, staff revised Table 10 of the plan as detailed below:

Table 10. CO Shutoff Criteria for Simulations

	PGMA G300 Criteria (ppmv)	UL 2201 Criteria (ppmv)
Instantaneous	>800	400
10-min rolling average	>400	150

## Section 8. Simulation Methodology

Staff is simulating all of the scenarios defined in the tables in Appendix A for a 24-hour period over a range of 28 days in different weather conditions, with shutoff criteria associated with each of the two voluntary standards, and with no shutoff criteria for baseline generators. These simulations are being run in all 40 model structures for the class 1 and class 2 single-cylinder generator categories of generators; whereas, for the handheld and class 2 twin-cylinder generator categories, the simulations are being run in only the three model structures identified in Section 4, as reflecting corresponding fatal incident data.

## Section A.2 Effectiveness Analysis

As a result of the new scenario tables provided in Appendix A, the options listed in TN 2048 have been revised as follows:

- 1. No restart, or
- 2. Restart in the same location, and if shut off recurs, then move the generator outside and restart a second time; or
- 3. Restart in the same location, but with change in window opening; and if shut off recurs, then move the generator outside, and restart a second time; or
- 4. Move to a more isolated area (this could be either another room on the first floor of the house that has a door that isolates the generator, a crawlspace, a basement, or a garage) and restart; and if shut off recurs, then move the generator outside and restart a second time; or
- 5. Move the generator outside and then restart.

CPSC staff assumed probabilities for each of these scenarios and they are subsequently used as the weights for each.

Staff has identified two types of occupants who are potential victims: the *operator* who has direct interaction with the generator, and the *collateral person* who is within the same house or

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f The word *potential* is used here because the simulations with the voluntary standard-compliant generators may not produce COHb levels associated with fatal or injured occupants. However, the reader is reminded that the simulations with the baseline generators are based on incidents in CPSC's databases, each resulting in one or more fatalities.

Table 3.d. [G300] Scenario for Houses with Crawlspace But No Basement or Garage, with Generator Initially Operated Outside

24,520 0141 [		Houses with Crawisp					operated outside										
	Structure Type: H	HOUSE	Gar	rage: No	Basem	ent: No	Crawlspace: Yes										
Init	tial Location:		Outside		V	Veight for Hom	ne Type: (# deaths allocated to this home * % this location	n)	FINAL SCENARIO								
Initia	al Conditions:	E	xterior door t	to kitchen is oper	n 10 cm. Start	generator in a	location outside of kitchen where CO enters home.										
				F	Restart Scenar	ios			WEIGHTS								
Scenario	Response	to Shutoff	Scenario Weight	Changes fr Condi		Sub- Scenario	2nd restart	2nd Reaction									
Q	is empty; therefore	shutoff until the tank there are no restart arios.	Actual Deaths for specific house model	Generator doe until the tank therefore, there scena	k is empty; are no restart	N/A	N/A	N/A	Actual Deaths for specific house model								
Table 4.a. [			nt, But No Cr	rawlspace or Gar	rage, with Gen	erator Initial	ly Operated in Kitchen										
	Structure Type: H	HOUSE		age: No	Baseme		Crawlspace: No		,								
	tial Location:		Kitchen				ne Type: (# deaths allocated to this home * % this location	)									
Initia	al Conditions:	ļ					st plume mixes in kitchen.		FINAL								
				F	Restart Scenari			I	SCENARIO								
Scenario	Response	to Shutoff	Scenario Weight	Changes from Initial Conditions		Sub- Scenario Weight	2nd restart	2nd Reaction Weight	WEIGHTS								
Α	No r	estart	0.0500	N/A	4	1.0000	N/A	1.0000	0.0500								
B1				Nasa	_	0.5000	Operator moves generator to outside of kitchen where CO does not enter home.	0.9	0.2025								
B2	On avatav vaat	orto in kitobon	0.4500	Non	e.	0.5000	Operator moves generator to outside of kitchen where CO enters home.	0.1	0.0225								
В3	Operator restarts in kitchen.		0.4500	Kitahan windaw	via anan fulliv	0.5000	Operator moves generator to outside of kitchen where CO does not enter home.	0.9	0.2025								
B4				Kitchen window	nis open rully.	0.5000	Operator moves generator to outside of kitchen where CO enters home.	0.1	0.0225								
C1	'	and restarts the nent. Exhaust plume	0.2500	Window in base	'indow in basement is open		Window in basement is open		w in basement is open		Vindow in basement is open		/indow in basement is open		Operator moves generator to outside of kitchen where CO does not enter home.	0.9	0.2250
C2	_ ~	basement.	0.2300	0.2500 Window in basement fully.		1.0000	Operator moves generator to outside of kitchen where	0.1	0.0250								

0.9000

0.1000

CO does not enter home.

CO enters home.

0.2500

Operator moves generator to outside of

kitchen.

C2

D1

D2

1.0000

1.0000

CO enters home.

N/A

N/A

0.0250

0.2250

0.0250

	Structure Type: H	OUSE	Gara	age: No	Basem	ent: Yes	Crawlspace: No		
Init	tial Location:	E	Basement		V	Veight for Hom	ne Type: (# deaths allocated to this home * % this location	1)	FINAL
Initi	al Conditions:		Basement sta	airway door is op	en 10 cm. Wi	ndow in basen	nent is closed. Exhaust plume mixes in basement.		
				R	Restart Scenar	ios			SCENARIO
Scenario	Response	to Shutoff	Scenario Changes from Condition			Sub- Scenario Weight	2nd restart	2nd Reaction Weight	WEIGHTS
Е	No re	estart	0.0500	N/A	4	1.0000	N/A	1.0000	0.0500
F1				No cho			Operator moves generator to outside of kitchen where CO does not enter home.	0.9	0.2775
F2	Operator restarts gov	parator in bacament	0.6167		No change.		Operator moves generator to outside of kitchen where CO enters home.	0.1	0.0308
F3	Operator restarts ger	ator restarts generator in basement.		Window in basement open		ment open 0.5000	Operator moves generator to outside of kitchen where CO does not enter home.	0.9	0.2775
F4				fully	<i>/</i> .	0.5000	Operator moves generator to outside of kitchen where CO enters home.	0.1	0.0308
G1	Operator moves ger	nerator to outside of	0.3333	CO does not e	enter home.	0.9000	N/A	1.0000	0.3000
G2	kitch	nen.	0.5555	CO enters	s home.	0.1000	N/A	1.0000	0.0333
Table 4.c. [	G300] Scenario for H	louses with Basemen	t, But No Cra	wlspace or Gara	ge, with Gene	erator Initially	y Operated Outside	•	
	Structure Type: H	OUSE	Gara	age: No	Baseme		Crawlspace: No		
Init	Initial Location: Outside				V	eight for Hom	ne Type: (# deaths allocated to this home * % this location)	)	
Initi	al Conditions:	E	xterior door to				location outside of kitchen where CO enters home.		FINAL
				R	estart Scenar				SCENARIO
Scenario	Response	to Shutoff	Scenario Weight	Changes fro		Sub- Scenario	2nd restart	2nd Reaction	WEIGHTS

Weight

N/A

N/A

Weight

Actual

Deaths for

specific

house

model

Conditions

Generator does not shutoff

until the tank is empty;

therefore, there are no restart

scenarios.

Generator does not shutoff until the tank

is empty; therefore, there are no restart

scenarios.

Н

Weight

N/A

Actual

Deaths for

specific

house model

Table 5.a. [	-						y Operated in the Kitchen		
	Structure Type: F	IOUSE	Gara	age: Yes		ent: No	Crawlspace: No		
	tial Location:		Kitchen				ne Type: (# deaths allocated to this home $^{\star}$ % this location	)	
Initi	al Conditions:						st plume mixes in kitchen.		FINAL
				R	estart Scenari				SCENARIO
Scenario	Response	to Shutoff	Scenario Weight	Changes from Initial Conditions		Sub- Scenario Weight	2nd restart	2nd Reaction Weight	WEIGHTS
Α	No re	estart	0.0500	N/A	1	1.0000	N/A	1.0000	0.0500
B1				None	2	0.5000	Operator moves generator to outside of kitchen where CO does not enter home.	0.9	0.2025
B2	Operator rest	arts in kitchen.	0.4500	None	J.	0.5000	Operator moves generator to outside of kitchen where CO enters home.	0.1	0.0225
В3	Operator resta	arts in Kitchen.	0.4500	Kitchen window	is open fully	0.5000	Operator moves generator to outside of kitchen where CO does not enter home.	0.9	0.2025
B4				Kitchen window	is open rully.	0.5000	Operator moves generator to outside of kitchen where CO enters home.	0.1	0.0225
C1				Exhaust facing wall that has do		0.7500	Restart after moving generator to outside of _garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.0469
C2	Operator moves an	Operator moves and restarts generator	0.1250	interior. Exhaust plun inside garage		0.7300	Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0469
C3	in garage. Ba	y door closed.	0.1250	Exhaust facing toward the wall that has door to hou		0.2500	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.0156
C4				pushes some of	interior. Exhaust plume pushes some of exhaust into house.		Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0156
C5				Exhaust facing wall that has do	, ,	0.7500	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.0469
C6	Operator moves and	d restarts in garage.	0.4250	interior. Exhaust inside ga	•	0.7500	Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0469
C7	Bay door is	s open fully.	0.1250	Exhaust facing toward the wall that has door to house interior. Exhaust plume pushes some of exhaust into house.		0.2500	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.0156
C8						0.2000	Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0156
D1	Operator moves get	nerator to outside of	0.0500	CO does not e	enter home.	0.9000	N/A	1.0000	0.2250
D2		hen.	0.2500	CO enters	home.	0.1000	N/A	1.0000	0.0250

Table 5.b.i. [G300] Scenarios for Houses with Garage But No Basement or Crawlspace, with Generator Initially Operated in Garage with Generator Exhaust Facing Away from Wall that has Door to House Interior. Exhaust Mixes in Garage. [Scenario weight total = 75%]

	Structure Type: H	OUSE	Gara	age: Yes	Basem	ent: No	Crawlspace: No		
lni <sup>.</sup>	tial Location:		Garage		V	eight for Hom	ne Type: (# deaths allocated to this home * % this location)	)	
Initi	al Conditions:	Door to	house interio	r is open 10 cm.	Bay door is cl	osed. Generat	tor is in center of garage. Exhaust plume mixes in garage.		FINAL
				F	Restart Scenari	os			SCENARIO
Scenario	Response	to Shutoff	Scenario Weight	Weight Conditions		Sub- Scenario Weight	2nd restart	2nd Reaction Weight	WEIGHTS
Е	No re	estart	0.0500	N/A	A	1.0000	N/A	1.0000	0.0375
F1				Non	0	0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.1156
F2	Restart in garage 0.0		0.6167	Non	6.	0.3000	Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.1156
F3	i vestart ii	Restart in garage. 0.6167		Bay door is open fu		0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.1156
F4				Bay door is	open rully.	0.3000	Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.1156
G1	Operator opens ba	y door, moves and	0.3333	Bay door is on operator returning CO does not e	ns to house.	0.5000	N/A	1.0000	0.1250
G2	restarts generator outside garage.		0.000	Operator leav open after retur CO enters th	ning to house.	0.5000	N/A	1.0000	0.1250

Table 5.b.ii. [G300] Scenarios for Houses with Garage But No Basement or Crawlspace, with Generator Initially Operated in Garage with Generator Exhaust Facing Toward Wall that has Door to House Interior. Exhaust Plume Pushes Some of Exhaust Into House. [Scenario weight total = 25%]

Crawlspace: No.

	Structure Type: H	JUSE	Gara	age: Tes	Baseme	ent: NO	Crawispace: No		
In	tial Location:		Garage		W	eight for Hom	ne Type: (# deaths allocated to this home * % this location)	)	
Init	ial Conditions:	Door to house inter	ior is open 1	0 cm. Bay door i	is closed. Gene	rator is in cer	nter of garage. Exhaust facing toward wall with door to hou	ise interior.	FINAL
				F	Restart Scenario	os			SCENARIO
Scenario	Response	to Shutoff	Scenario Weight	Changes fr Condi		Sub- Scenario Weight	2nd restart	2nd Reaction Weight	WEIGHTS
Н	No re	start	0.0500	N/A	A	1.0000	N/A	1.0000	0.0125
I1				Non		0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.0385
12	Restart in garage				ie.	0.5000	Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0385
13	Restart ir	Restart in garage. 0.616				/. 0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.0385
14				Bay door is	open rully.	0.5000	Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0385
J1	Operator opens bay	door, moves and	0 2222	Bay door is one operator returning CO does not e	ns to house.	0.5000	N/A	1.0000	0.0417
J2	restarts generator outside garage.		Operator leav open after retur CO enters the	ning to house.	0.5000	N/A	1.0000	0.0417	

Table 5.c. [G300] Scenario for Houses with Garage But No Basement or Crawlspace, with Generator Initially Operated Outside

Garage:

	Structure Type: HOUSE Garage: No			age: No	Basem	ent: No	Crawlspace: No			
Ini	tial Location:		Outside		V	Weight for Home Type: (# deaths allocated to this home * % this location)				
Initi	al Conditions:	E	Exterior door to kitchen is open 10 cm. Start generator in a location outside of kitchen where CO enters home.						FINAL	
			restait decitatios						SCENARIO	
Scenario	Response	to Shutoff	Scenario Changes from Initial Weight Conditions			Sub- Scenario Weight	2nd restart 2nd Reaction Weight		WEIGHTS	
К	Generator does not is empty; therefore, scena	there are no restart	Actual Deaths for specific house model	N/A	Α	N/A	N/A	N/A	Actual Deaths for specific house model	

Structure Type: HOUSE

Table 6.a. [0	G300] Scenario for H	Iouses with Garage a	nd Basement	But No Crawlsp	ace, with Gen	erator Initial	ly Operated In Kitchen		
	Structure Type: H	OUSE	Gar	age: Yes	Baseme	ent: Yes	Crawlspace: No		
Initi	ial Location:		Kitchen		V	eight for Hom	ne Type: (# deaths allocated to this home * % this location	)	
Initia	al Conditions:			Kitch	en window is d	losed. Exhaus	st plume mixes in kitchen.		FINAL
				R	estart Scenari	os			SCENARIO
			Cooperio	Changes fr	om Initial	Sub-		2nd	WEIGHTS
Scenario	Response	to Shutoff	Scenario	Changes in		Scenario	2nd restart	Reaction	
			Weight	Condit	10115	Weight		Weight	
Α	No re	estart	0.0500	N/A	4	1.0000	N/A	1.0000	0.0500
B1							Operator moves generator to outside of kitchen where	0.9	0.2025
DI				None	Α.	0.5000	CO does not enter home.	0.9	0.2023
B2				14011	<b>.</b>	0.0000	Operator moves generator to outside of kitchen where	0.1	0.0225
	Operator resta	arts in kitchen.	0.4500				CO enters home.	0.1	0.0220
B3							Operator moves generator to outside of kitchen where	0.9	0.2025
				Kitchen window	is open fully.	0.5000	CO does not enter home.		
B4				rateriori milaem le operi rany.			Operator moves generator to outside of kitchen where	0.1	0.0225
							CO enters home.		
04				Cylograf facing			Restart after moving generator to outside of garage	0.5	0.0400
C1				Exhaust facing			where CO does not enter garage. Garage bay door is	0.5	0.0469
				wall that has door to house interior. Exhaust plume mixes inside garage.		0.7500	open until operator returns to house.  Restart after moving generator to outside of garage		
C2							where CO enters garage. Garage bay door is open by	0.5	0.0469
02	Onerator moves an	d restarts generator		l liside ga	arage.		operator and remains open.	0.5	0.0409
	in garage. Bay	•	0.1250				Restart after moving generator to outside of garage		
C3	iii garago. Da	y door oloood.		Exhaust facing	•	to house	where CO does not enter garage. Garage bay door is	0.5	0.0156
				wall that has do			open until operator returns to house.	0.0	0.0100
				interior. Exh		0.2500	Restart after moving generator to outside of garage	0.5	
C4				pushes some of			where CO enters garage. Garage bay door is open by		0.0156
				hous	se.		operator and remains open.		
							Restart after moving generator to outside of garage		
C5				Exhaust facing	g away from		where CO does not enter garage. Garage bay door is	0.5	0.0469
				wall that has do		0.7500	open until operator returns to house.		
				interior. Exhaus	t plume mixes	0.7500	Restart after moving generator to outside of garage		
C6				inside ga	arage.		where CO enters garage. Garage bay door is open by	0.5	0.0469
	Operator moves and	0 0	0.1250				operator and remains open.		
	Bay door is	open fully.	0.1200	Exhaust facing	toward the		Restart after moving generator to outside of garage		
C7			wall that has do	•		where CO does not enter garage. Garage bay door is	0.5	0.0156	
				interior. Exhaust plume pushes some of exhaust into		0.2500	open until operator returns to house.		
					•		Restart after moving generator to outside of garage	0.5	0.0455
C8				hous	l W		where CO enters garage. Garage bay door is open by	0.5	0.0156
							operator and remains open.		
D1	Operator moves ger		0.2500	CO does not e	enter home.	0.9000	N/A	1.0000	0.2250
D2	kitch	nen.		CO enters	s home.	0.1000	N/A	1.0000	0.0250

Table 6.b.	[G300] Scenarios for I	Houses with Garage	and Basemen	t But No Crawlsp	ace, with Ge	nerator Initial	lly Operated In Basement		
	Structure Type: HC	DUSE	Gara	age: Yes	Baseme	ent: Yes	Crawlspace: No		
Ini	tial Location:	E	Basement		Weight for Home Type: (# deaths allocated to this home * % this location)				
Initi	al Conditions:		Basement st	tairway door is op	pen 10 cm. Window in basement is closed. Exhaust plume mixes in basement				
	•			Re	estart Scenar	ios			SCENARIO
Scenario	Response t	to Shutoff	f Scenario Changes fr Weight Condit			Sub- Scenario Weight	2nd restart	2nd Reaction Weight	WEIGHTS
Е	No res	start	0.0500	N/A		1.0000	N/A	1.0000	0.0500
F1				No char	oge	0.5000	Operator moves generator to outside of kitchen where CO does not enter home.	0.9	0.2775
F2	Operator restarts gen	erator in basement	0.6167			0.3000	Operator moves generator to outside of kitchen where CO enters home.	0.1	0.0308
F3	Operator restarts gen	erator in basement.	0.0107	Window in base	ndow in basement open		Operator moves generator to outside of kitchen where CO does not enter home.	0.9	0.2775
F4				fully.		0.5000	Operator moves generator to outside of kitchen where CO enters home.	0.1	0.0308
G1	Operator moves gene	erator to outside of	0 2222	CO does not er	nter home.	0.9000	N/A	1.0000	0.3000
G2	kitch	en.	0.3333	CO enters	home.	0.1000	N/A	1.0000	0.0333

Table 6.c.i. [G300] Scenarios for Houses with Garage and Basement But No Crawlspace, with Generator Initially Operated In Garage, with Generator Exhaust Facing Away from Wall that has Door to House Interior. Exhaust Mixes In Garage. [Scenario weight total to 75%]

	Structure Type: He	OUSE	Gar	age: Yes	Baseme	nt: Yes	Crawlspace: No		
Init	tial Location:		Garage		V	eight for Hom	ne Type: (# deaths allocated to this home * % this location)		
Initi	al Conditions:	Door to	house interio	or is open 10 cm.	Bay door is cl	osed. Genera	tor is in center of garage. Exhaust plume mixes in garage.		FINAL
				R	Restart Scenari	os			SCENARIO
Scenario	Response	Response to Shutoff  Scenari Weight  No restart  0.0500		Changes fr Condit		Sub- Scenario Weight	2nd restart	2nd Reaction Weight	WEIGHTS
Н	No re	estart	0.0500	N/A	A	1.0000	N/A	1.0000	0.0375
I1					e.	0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.1156
12	Restart in garage.		0.6167	Terre.			Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.1156
13			0.6167	Bay door is	onen fullv	pen fully. 0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.1156
14				Day door is	open rully.	0.3000	Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.1156
J1	Operator opens bay	Operator opens bay door, moves and restarts generator outside garage.		Bay door is on operator return CO does not e	ns to house.	0.5000	N/A	1.0000	0.1250
J2	restarts generator			Operator leave open after return CO enters th	ning to house.	0.5000	N/A	1.0000	0.1250

Table 6.c.ii. [G300] Scenarios for Houses with Garage and Basement But No Crawlspace, with Generator Initially Operated In Garage, with Generator Exhaust Facing Toward Wall that has Door to House Interior. Exhaust Plume Pushes Some of Exhaust Into House. [Scenario weight total to 25%]

Door to Ho	ouse Interior. Exhaus	t Plume Pushes Some	e of Exhaust I	nto House. [Scer	nario weight to	otal to 25%]			
	Structure Type: H	IOUSE	Gara	age: Yes	Baseme	ent: Yes	Crawlspace: No		
Ini	tial Location:		Garage		V	eight for Hon	ne Type: (# deaths allocated to this home * % this location	)	_
Initi	al Conditions:	Door to house inte	rior is open 1	,		house inter	enter of garage. Exhaust plume is facing towards wall that lior.	nas door to	FINAL SCENARIO
				R	Restart Scenari	os			WEIGHTS
Scenario	Response	to Shutoff	Scenario Weight		Changes from Initial Conditions		2nd restart	2nd Reaction Weight	
K	No re	estart	0.0500	N/A	4	1.0000	N/A	1.0000	0.0125
L1				Non	Q	0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.0385
L2	Poetart ii	n garage.	0.6167			0.5000	Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0385
L3	Nesiartii	ii garage.	0.0107			0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to house.	0.5	0.0385
L4			,		,,		Restart after moving generator to outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0385
M1	Operator opens ba	y door, moves and	0.3333	Bay door is on operator return CO does not e	ns to house.	0.5000	N/A	1.0000	0.0417
M2	restarts generato	r outside garage.	0.3333	Operator leave open after return CO enters th	ning to house.	0.5000	N/A	1.0000	0.0417
Table 6.d. [	G300] Scenario for I		nd Basement	But No Crawlsp	ace, with Gen	erator Initial	ly Operated Outside		
	Structure Type: H	IOUSE	Gara	age: Yes	Baseme	ent: Yes	Crawlspace: No		
	tial Location:		Outside				ne Type: (# deaths allocated to this home $^*$ % this location	)	
Initi	al Conditions:						oor to kitchen is open 10 cm.		FINAL
				R	Restart Scenari				SCENARIO WEIGHTS
Scenario	Response	to Shutoff	Scenario Weight	Changes from Initial Conditions		Sub- Scenario Weight	2nd restart	2nd Reaction Weight	WEIGHIS
N		shutoff until the tank there are no restart arios.	Actual Deaths for specific house model	N/A	N/A		N/A	N/A	Actual Deaths for specific house model

Table 7. [G300] Scenarios for Detached 1-Car and 2-Car Garages (GAR1 and GAR2) with Generator Operated In Garage									
Stru	Structure Type: DETACHED GARAGE GAR1 & GAR2								
Init	tial Location:		Garage	Garage Weight for Home Type: (# deaths allocated to this home * % this location)					
Initia	al Conditions:		В	ay door is closed	. Generator is	in center of g	arage. Exhaust plume mixes in garage		FINAL
				R	estart Scenari	os			SCENARIO
Scenario	Response	to Shutoff	Scenario Weight	Changes fro Conditi		Sub- Scenario Weight	2nd restart	2nd Reaction Weight	WEIGHTS
Α	No re	estart	0.0500	N/A	١	1.0000	N/A	1.0000	0.0500
B1				None.		0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to inside garage.	0.5	0.1542
B2	Postort in	n garage.	0.6167	None	NOTICE.		Restart after moving generator to a outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.1542
ВЗ	Residitii	i garage.	0.0107	Pay door is	opon fully	0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to inside garage.	0.5	0.1542
B4				Bay dool is t	Bay door is open fully.		Restart after moving generator to a outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.1542
C1	Operator opens bay restarts generator	•	0.3333	None. CO doe garag		0.5000	NA	1.0000	0.1667
C2	Operator retur		0.5555	Bay door is open enters the	•	0.5000	NA	1.0000	0.1667

Table 8.a. [G300] Scenarios for Detached Garage Containing a Workshop or Other Room (GAR3) with Generator Initially Operated in Workshop Room								
Stru	cture Type: DETACH	ED GARAGE				GAR3		
Initial Location: Workshop in Garage Weight for Home Type: (# deaths allocated to this home * % this location)								
Initial Conditions: Bay door is closed. Generator is in center of workshop room. Workshop door is closed. Exhaust plume mixes in workshop room.							FINAL	
				Restart Scenari	os			SCENARIO
Scenario	Response	to Shutoff	Scenario Weight	Changes from Initial Conditions	Sub- Scenario Weight	2nd restart	2nd Reaction Weight	WEIGHTS
Α	No re	estart	0.0500	N/A	1.0000	N/A	1.0000	0.0500
B1				None.	0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to inside garage.	0.5	0.1125
B2	Restart in same ro	ŭ	0.4500			Restart after moving generator to a outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.1125
B3	exhaust plume s	staying in room.		Window in workshop room is	0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to inside garage.	0.5	0.1125
B4				open fully.		Restart after moving generator to a outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.1125
C1				Door to workshop room is open 10 cm. Exhaust facing away from wall with door to	0.7500	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to inside garage.	0.5	0.0469
C2	Move and restart in	n garage. Bay door	0.1250	workshop room. Exhaust plume mixes inside garage.	0.7000	Restart after moving generator to a outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0469
C3	clos	sed.	0.1200	Door to workshop room is open 10 cm. Exhaust facing toward the wall with door to	0.2500	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to inside garage.	0.5	0.0156
C4				shop. Exhaust plume pushes some of exhaust into workshop room.	0.2000	Restart after moving generator to a outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0156
C5				Door to workshop room is open 10 cm. Exhaust facing away from wall with door to	0.7500	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to inside garage.	0.5	0.0469
C6	Move and restart in	garage. Bay door is	0.1250	workshop room. Exhaust plume mixes inside garage.	0.7.000	Restart after moving generator to a outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0469
C7	open	fully.	0.1200	Door to workshop room is open 10 cm. Exhaust facing toward the wall with door to	0.2500	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to inside garage.	0.5	0.0156
C8				shop. Exhaust plume pushes some of exhaust into workshop room.	0.2000	Restart after moving generator to a outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.0156
D1	Operator opens ba restarts generato		0.2500	None. CO does not enter garage.	0.5000	NA	1.0000	0.1250
D2	Operator returns to		0.2000	Bay door is open fully. CO enters the garage.	0.5000	NA	1.0000	0.1250

Table 8.b.i. [G300] Scenarios for Detached Garage Containing a Workshop or Other Room (GAR3) with Generator Initially Operated In Garage, with Exhaust Oriented Away from Wall with Door to Workshop Room [Scenario weight total to 75%]

Door to W	orkshop Room [Scena	ario weight total to 7:	5%]						
Structure Type: DETACHED GARAGE							GAR3		
Ini	tial Location:		Garage		V	eight for Hom	ne Type: (# deaths allocated to this home * % this location)	)	
Initi		Door to workshop is Exhaust mixes in gar	shop is open 10 cm. Bay door is closed. Generator is in center of garage. Exhaust is facing away from wall with door to workshop. s in garage.			FINAL SCENARIO			
				R	estart Scenari	os			WEIGHTS
Scenario	Response	to Shutoff	Scenario Weight	Changes fro Conditi		Sub- Scenario Weight	2nd restart	2nd Reaction Weight	
Α	No re	estart	0.0500	N/A	1	1.0000	N/A	1.0000	0.0375
B1				None.		0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to inside garage.	0.5	0.1156
B2	Doctort i		0.6167	None	<b>5.</b>	0.3000	Restart after moving generator to a outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.1156
В3	Restartii	n garage.	0.0107	Pay door is	onon fully	0.5000	Restart after moving generator to outside of garage where CO does not enter garage. Garage bay door is open until operator returns to inside garage.	0.5	0.1156
B4				Bay dool is t	open fully. 0.5000		Restart after moving generator to a outside of garage where CO enters garage. Garage bay door is open by operator and remains open.	0.5	0.1156
C1	Operator opens ba	y door, moves and routside garage.	0.3333	None. CO doe garag		0.5000	NA	1.0000	0.1250
C2		o original location.	0.3333	Bay door is open	,	0.5000	NA	1.0000	0.1250